

Eastern Montana Area Safety Alert

Subject: July 2005 Heavy Fine Fuel Loadings and Potential for Extreme Fire Behavior

Area of Concern: Firefighter Safety

Distribution: STATEWIDE

Discussion: Wet spring weather throughout Eastern Montana has caused impressive fine fuel growth in native and non-native plant communities. Heavy vegetative growth in areas normally used as natural fire breaks has been reported.

Fine fuel loadings are averaging 1300 to 1800 pounds per acre dry weight (twice as much as in recent years). Heavy Fine fuel loadings have been reported across much of the West (e.g., Idaho, Nevada, Utah).

Typical summer weather patterns are spreading across the area, fuels are rapidly drying out (i.e., temps 90plus, RH less than 20%, gusty afternoon winds). Ecological impacts from previous year's damaged and diseased vegetation along with decreasing live fuel moisture values (currently at less than 110%) will add to fire behavior. **Ignitions in these areas will significantly affect burning characteristics, fire intensity and severity will increase.**

Fire Behavior Concerns to Firefighters and the Public:

- Expect fine fuels to ignite easily and fire to move rapidly. **You can't out run it!** During the burning period the fire will likely spread at 2 to 8 mph on flat ground. You walk at 3 to 4 mph on average.
- Anticipate fire whirls because of the combination of fine flashy fuels, terrain, dry atmospheric conditions and strong surface instability.
- Anticipate large acres to be consumed in a short period of time.
- As live fuel moisture values fall, flaming fronts will elongate, fires will burn with more intensity and fire behavior will become more extreme.
- Anticipate fire to creep under wetlines and retardant lines in areas where fine fuel matting is seen.
- Anticipate dependent and independent crown fires in dead or dying conifer stands.

Tactics

- Have Field Observers who understand the effects of weather changes, topography and can see the flaming front...fine fuels by definition respond quickly to their environment (LCES).
- Ensure good anchor points...firefighters should keep one foot in the black.
- Consider indirect suppression tactics...early in the planning and early in the day.
- Cool (foam, water, retardant) important holding areas and areas of heavy fuel loading...reduce the intensity so crews can work.
- Hotspot the line...take advantage of retardant effects.
- Work engines in tandem...cover your back.
- Modify shift start and end times...take advantage of early morning or late evening weather patterns that favor suppression efforts